

Notice of Allowability

Application No.

09/905,440

Applicant(s)

WATANABE ET AL.

Examiner

Art Unit

Nghi V. Tran

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/28/2006.
2. ☒ The allowed claim(s) is/are 1-4, 9, 20, and 24-35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Khanh Dinh
Primary Examiner

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Pavel Pogodin (Reg. 48,205) on July 10, 2006.

3. The application has been amended as follows:

In the claims

1. (*Currently Amended*) A method of performing an initial copy procedure in a remote copy system, the method comprising:

configuring a network path between a first disk subsystem and a second disk subsystem to increase the speed of data transmission across the network path for the initial copy procedure;

after the configuring the network path, configuring the remote copy system for a remote copy operation;

after the configuring the remote copy system, performing an initial remote copy operation to copy data across the network path from the first disk subsystem to the second disk subsystem, wherein the initial remote copy

operation comprises copying of data initially stored in the first disk subsystem to the second disk subsystem; and

after the performing the initial remote copy operation, adjusting the network path to reduce the speed of data transmission across the network path, thereby reducing the speed of at least one subsequent remote copy operation between the first disk system and the second disk system, wherein the at least one subsequent remote copy operation comprises copying of data update from the first disk subsystem to the second disk subsystem and wherein configuring the network path comprises increasing a data transfer rate characteristic of the network path.

2. (Original) The method of claim 1 wherein the first disk subsystem is located in a master site.

3. (Original) The method of claim 1 wherein the first disk subsystem is located in a manufacturer site.

4. (Original) The method of claim 1, further comprising:
deploying the second disk subsystem to a remote site.

5-8. (Cancelled)

9. (Currently Amended) An article of manufacture, comprising:

a machine-readable medium having stored thereon instructions to:

configure a network path between a first disk subsystem and a second disk subsystem to increase the speed of data transmission across the network path for an initial remote copy operation;

after configuring the network path, configure the remote copy system for a remote copy operation;

after configuring the remote copy system, perform the initial remote copy operation to copy data across the network path from the first disk subsystem to the second disk subsystem, wherein the initial remote copy operation comprises copying of data initially stored in the first disk subsystem to the second disk subsystem; and

after performing the initial remote copy operation, adjust the network path to reduce the speed of data transmission across the network path and thereby reduce the speed of at least one subsequent remote copy operation between the first disk system and the second disk system, wherein the at least one subsequent remote copy operation comprises copying of data update from the first disk subsystem to the second disk subsystem and wherein configuring the network path comprises selecting

multiple physical paths in the network path to transmit data across the path.

10-19. (*Canceled*)

20. (*Currently Amended*) A remote copy system, comprising:

a first disk subsystem located at a first site;

a second disk subsystem capable to be coupled to the first disk subsystem via a network path, with the network path capable to be configured to increase or decrease the speed of data transmission from the first disk subsystem to the second disk subsystem; and

means for configuring the network path to cause an initial remote copy operation between the first disk subsystem and the second disk subsystem to occur at an initial data transmission speed that is faster than a subsequent data transmission speed of at least one subsequent remote copy operation, the configuring the network path to cause an initial remote copy operation occurring before the subsequent remote copy operation, wherein the initial remote copy operation comprises copying of data initially stored in the first disk subsystem to the second disk subsystem and the at least one subsequent remote copy operation comprises copying of data update from the first disk subsystem to the second disk subsystem and wherein configuring the network path comprises

selecting multiple physical paths in the network path to transmit data across the path.

21-23. (*Canceled*)

24. (New) A method of performing an initial copy procedure in a remote copy system, the method comprising:

configuring a network path between a first disk subsystem and a second disk subsystem to increase the speed of data transmission across the network path for the initial copy procedure;

after the configuring the network path, configuring the remote copy system for a remote copy operation;

after the configuring the remote copy system, performing an initial remote copy operation to copy data across the network path from the first disk subsystem to the second disk subsystem, wherein the initial remote copy operation comprises copying of data initially stored in the first disk subsystem to the second disk subsystem; and

after the performing the initial remote copy operation, adjusting the network path to reduce the speed of data transmission across the network path, thereby reducing the speed of at least one subsequent remote copy operation between the first disk system and the second disk system, wherein the at least

one subsequent remote copy operation comprises copying of data update from the first disk subsystem to the second disk subsystem and wherein configuring the network path comprises selecting multiple physical paths in the network path to transmit data across the path.

25. (New) The method of claim 24, wherein the first disk subsystem is located in a master site.

26. (New) The method of claim 24, wherein the first disk subsystem is located in a manufacturer site.

27. (New) The method of claim 24, further comprising:

deploying the second disk subsystem to a remote site.

28. (New) A method of performing an initial copy procedure in a remote copy system, the method comprising:

configuring a network path between a first disk subsystem and a second disk subsystem to increase the speed of data transmission across the network path for the initial copy procedure;

after the configuring the network path, configuring the remote copy system for a remote copy operation;

after the configuring the remote copy system, performing an initial remote copy operation to copy data across the network path from the first disk subsystem to the second disk subsystem, wherein the initial remote copy operation comprises copying of data initially stored in the first disk subsystem to the second disk subsystem; and

after the performing the initial remote copy operation, adjusting the network path to reduce the speed of data transmission across the network path, thereby reducing the speed of at least one subsequent remote copy operation between the first disk system and the second disk system, wherein the at least one subsequent remote copy operation comprises copying of data update from the first disk subsystem to the second disk subsystem, wherein adjusting the network path comprises reducing the number of physical paths in the network path.

29. (New) The method of claim 28 wherein the first disk subsystem is located in a master site.

30. (New) The method of claim 28 wherein the first disk subsystem is located in a manufacturer site.

31. (New) The method of claim 28, further comprising:
deploying the second disk subsystem to a remote site.

32. (New) A method of performing an initial copy procedure in a remote copy system, the method comprising:

configuring a network path between a first disk subsystem and a second disk subsystem to increase the speed of data transmission across the network path for the initial copy procedure;

after the configuring the network path, configuring the remote copy system for a remote copy operation;

after the configuring the remote copy system, performing an initial remote copy operation to copy data across the network path from the first disk subsystem to the second disk subsystem, wherein the initial remote copy operation comprises copying of data initially stored in the first disk subsystem to the second disk subsystem; and

after the performing the initial remote copy operation, adjusting the network path to reduce the speed of data transmission across the network path, thereby reducing the speed of at least one subsequent remote copy operation between the first disk system and the second disk system, wherein the at least one subsequent remote copy operation comprises copying of data update from the first disk subsystem to the second disk subsystem, wherein adjusting the network path comprises decreasing the data transfer rate characteristic of the network path.

33. (New) The method of claim 32 wherein the first disk subsystem is located in a master site.

34. (New) The method of claim 32 wherein the first disk subsystem is located in a manufacturer site.

35. (New) The method of claim 32, further comprising:
deploying the second disk subsystem to a remote site.

Allowable Subject Matter

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4. Claims 1-4, 9, 20, and 24-35 are allowed.

5. This communication warrants no examiner's reason for allowance, as applicant's reply makes evident the reason for allowance, satisfying the record as whole as required by rule 37 CFR 1.104 (e). In this case, the substance of applicant's remarks filed on September 28, 2005 with respect to the amended claim limitations point out the reason claims are patentable over the prior art of record. Thus, the reason for allowance is in all probability evident from the record and no statement for examiner's reason for allowance is necessary (see MPEP 13202.14).

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V. Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Art Unit 2151

NT

Khánh Dinh
Primary Examiner